

ABSTRACT OF DISCLOSURE

Disclosed herein is a device including first and second optical couplers and a loop optical path. The first optical coupler includes first and second optical paths directionally coupled to each other. The loop optical path includes an optical fiber as a nonlinear optical medium, and connects the first and second optical paths. The second optical coupler includes a third optical path directionally coupled to the loop optical path. The optical fiber has an enough large nonlinear coefficient. The wording of "enough large" means that the nonlinear coefficient is large enough to reduce the length of the optical fiber to such an extent that the optical fiber has a polarization maintaining ability. By using such an optical fiber having an enough large nonlinear coefficient, a relatively short optical fiber can be used as the nonlinear optical medium.